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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/070,006      | 07/02/2003  | Gilbert Wolrich      | 10559-302US1        | 5728             |

7590                    07/02/2003  
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4350 La Jolla Village Drive  
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San Diego, CA 92122

[REDACTED] EXAMINER

PEIKARI, BEHZAD

[REDACTED] ART UNIT            [REDACTED] PAPER NUMBER

2186

DATE MAILED: 07/02/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                  |                  |
|------------------------------|------------------|------------------|
| <b>Office Action Summary</b> | Application No.  | Applicant(s)     |
|                              | 10/070,006       | WOLRICH, GILBERT |
|                              | Examiner         | Art Unit         |
|                              | B. James Peikari | 2186             |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 13 May 2003.

2a) This action is **FINAL**.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-14 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 28 February 2002 is/are: a) accepted or b) objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

|   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                   | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Oath/Declaration***

1. The declaration submitted on May 13, 2003 is acknowledged.

### ***Drawings***

2. The informal drawings filed in this application are acceptable for examination purposes. When the application is allowed, applicant will be required to submit new formal drawings.

### ***Specification***

3. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The previous objection to the abstract is withdrawn due to applicant's remarks submitted on May 13, 2003.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 8 rejected under 35 U.S.C. 102(b) as being clearly anticipated by any one of Satterfield, U.S. 5,717,760, Kang, U.S. 5,652,583, Park, U.S. 5,600,812, Fujiwara et al., U.S. 5,436,626, or Koopman, Jr. et al., U.S. 5,363,448.

Each of these references teach how a first word and a second word are concatenated and then shifted to form a new (third) word:

(a) As for Satterfield, note Figure 16 and the corresponding description of Figure 16. There are several permutations in this reference which teach claims 1 and 8. For example, in column 21:

*first word:* M1

*second word:* IDB 550

*stored, shifted, concatenated intermediate result:* M1 and IDB 550 are added, resulting in a 16 bit word; the middle 8 bits of the 16 bit word are taken out and the top 4 bits and the lower 4 bits are shifted together and concatenated into an intermediate 8 bit word.

(b) as for Kang, note Figures 1 and 3, the abstract and columns 1-2:

*first word:* variable-length codeword

*second word:* the length of the variable-length codeword

*stored, shifted, concatenated intermediate result:* the Kang system concatenates the two (column 1, lines 12-16) using, in part, barrel shifters and storing the intermediate results in registers (column 1, lines 55 et seq.)

(c) as for Park, note the abstract and columns 3-5;

*first word & second word*: these are the "concatenated variable-length codes"

*stored, shifted, concatenated intermediate result*: the concatenated variable-length codes are shifted into a storage location as an intermediate step prior to decoding (note the Abstract).

(d) as for Fujiwara et al., note the abstract and Figure 2;

*first word*: variable-length codeword

*second word*: the length of the variable-length codeword

*stored, shifted, concatenated intermediate result*: the Fujiwara et al.,

system concatenates the two, shifts them and feeds them back (note the Abstract).

(e) as for Koopman, Jr. et al., note the abstract and columns 3-4.

*first word*: secret initial value

*second word*: second secret initial value

*stored, shifted, concatenated intermediate result*: the two numbers are

shifted into low order bit positions and then concatenated (note the Abstract).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the

subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-7 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Satterfield, U.S. 5,717,760, Kang, U.S. 5,652,583, Park, U.S. 5,600,812, Fujiwara et al., U.S. 5,436,626, or Koopman, Jr. et al., U.S. 5,363,448.

As for the claims 2-6 and 9-13, all of these references did not disclose all of the particulars of these dependent claims, such as the first and second words being 32 bits each and the intermediate result being 64 bits, right shifting, shifting between 1 and 31, or using the 5 least significant bits to determine the shifting.

However, these were data processing designs that were widely known in the art at the time the invention was made. Furthermore, some of these were suggested. For example, Koopman, Jr. et al. teach that the third word is 64 bits (note column 8). Fujiwara et al. teach shifting 16 bits (which is between 1 and 31) and suggest right shifting in Figure 4. Park, however, teaches away from right shifting, note column 7. But Park does teach an operand that results in shifting between 1 and 31 bits (note column 18, lines 48-53).

Both Koopman, Jr. et al. (column 7, lines 54 et seq.) and Park (column 18, lines 56 et seq.) teach using the 5 least significant bits to determine the shifting.

In any case, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the first and second words being 32 bits

each and the intermediate result being 64 bits, right shifting, shifting between 1 and 31, or using the 5 least significant bits to determine the shifting into the references above, since (1) these were well known in the art at the time of the invention, especially the choices of word size (e.g., 16 bits, 32 bits, 64 bits) and right shifting vs. left shifting and (2) some of these features were explicitly taught by some of the references cited above.

***Response to Amendment***

8. The remarks submitted with the amendment filed on May 13, 2003 have been carefully considered but are not deemed convincing for at least the following reasons.

- (A) The specific language of claim 1, including "a method of operating a processor comprising: concatenating a first word and a second word to produce an intermediate result; shifting the intermediate result by a specified shift amount; and storing the shifted intermediate result in a third word" has been shown for each of the five references cited above.
- (B) In accordance with the language of page 6 of the remarks, claims 2-7 and 9-14 stand or fall with claims 1 and 8, respectively, even though different grounds of rejection have been cited.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Peikari whose telephone number is (703) 305-

3824. The examiner is generally available between 11:00 am and 9:00 pm, EST, and on weekends.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Kim, can be reached at (703) 305-3821.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

or faxed to:

(703) 746-7239 (Official communications)

or:

(703) 746-7240 (for Informal or Draft communications)

or:

(703) 746-7238 (for After-Final communications)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).



B. James Peikari  
Primary Examiner  
Art Unit 2186

June 28, 2003